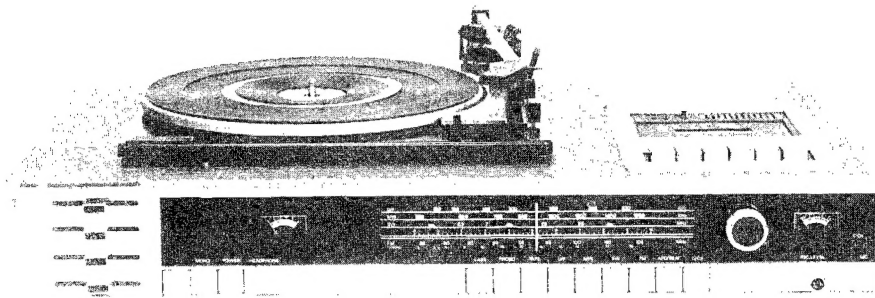


LW-MW-SW-FM STEREO RECEIVER with STEREO CASSETTE RECORDER and TURN-TABLE



SPECIFICATION

General		Tuning Indicator	Peaking Meter for accurate tuning.
Slider Controls	Balance, Volume, Bass, Treble,	AM LW Coverage	150 KHz - 330 KHz
		Sensitivity	600 microvolt/meter
Rotary Controls	Tuning, Record level	AM MW Coverage	520 KHz - 1605 KHz
Push Buttons (Left to Right)	St-Mono, ON-OFF, phono, Tape, LW, MW, SW, FM AFC/BEAT, CrO ₂	Sensitivity	400 microvolt/meter
Front Sockets	Headphones Jack, Stereo Microphone	AM-SW Coverage	6 MHz - 10 MHz 20 micorovolt
Rear Sockets (Left to Right)	Aerials, AM(SW) FM to DIN Standard, Tape, Speaker Left, Speaker Right, Power, Fuse (500 MA).	AM-IF	460 KHz
		Aerial LW-MW	Ferrite Rod
		Aerial SW	External Terminal
Consumption	130 Watts max.	Tape Mechanism System	Cassette, 4 Track, 2 channel horizontal POP-UP
Amplifier.		Wow Flutter	0.15 %
Semi-Conductors	45 transistors, 1 integrated circuit 18 diodes.	Speed	4.75 cm/SEC
Power Output	15 watts per channel @ 1% THD.	Frequency Response	40 Hz 10,000 Hz \pm 6 dB
Output Impedance	8 ohms per channel	Cross Talk	35 dB
Frequency Response	15 Hz-20 KHz \pm 3 dB	S/N Ratio	50 dB
Treble Control Range	@ 14 KHz = + 10 dB to - 7 dB	Tape Counter	Digital
Bass Control Range	@ 60 Hz = + 10 dB to - 10dB	Tape Bias and Erase Frequency	80 KHz
Gram input sens.	@ 1 KHz = 5 mv for Rated Output	CrO ₂ Tape	switch to Chromdioxid performance.
Tape input sens.	@ 1 KHz = 300 mv for Rated Output	Level Control	Stereo Recording with level meter.
Signal to Noise Ratio	Better than - 45 dB		
Power Supply	220 Volt AC 50 Hz. (240 volt. 50Hz)		
Tuner			
FM. Coverage	88 MHz - 104 MHz		
FM. IF.	10.7 MHz		
FM. Aerial Impedance	300 ohms		
FM. Sensitivity	For S/N 30 dB = 5 microvolt.		
FM. Sensitivity	For 30 dB limiting = 28 microvolt.		
Multiplex (Seperation)	30 dB		

NOTE: Due to the possibility of modifications from time to time, the right is reserved to supply goods which may differ slightly from those illustrated and described.

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PARTS LOCATION & CIRCUIT BOARD DIAGRAM

TUNER, IF & MULTIPLEX CIRCUIT BOARD

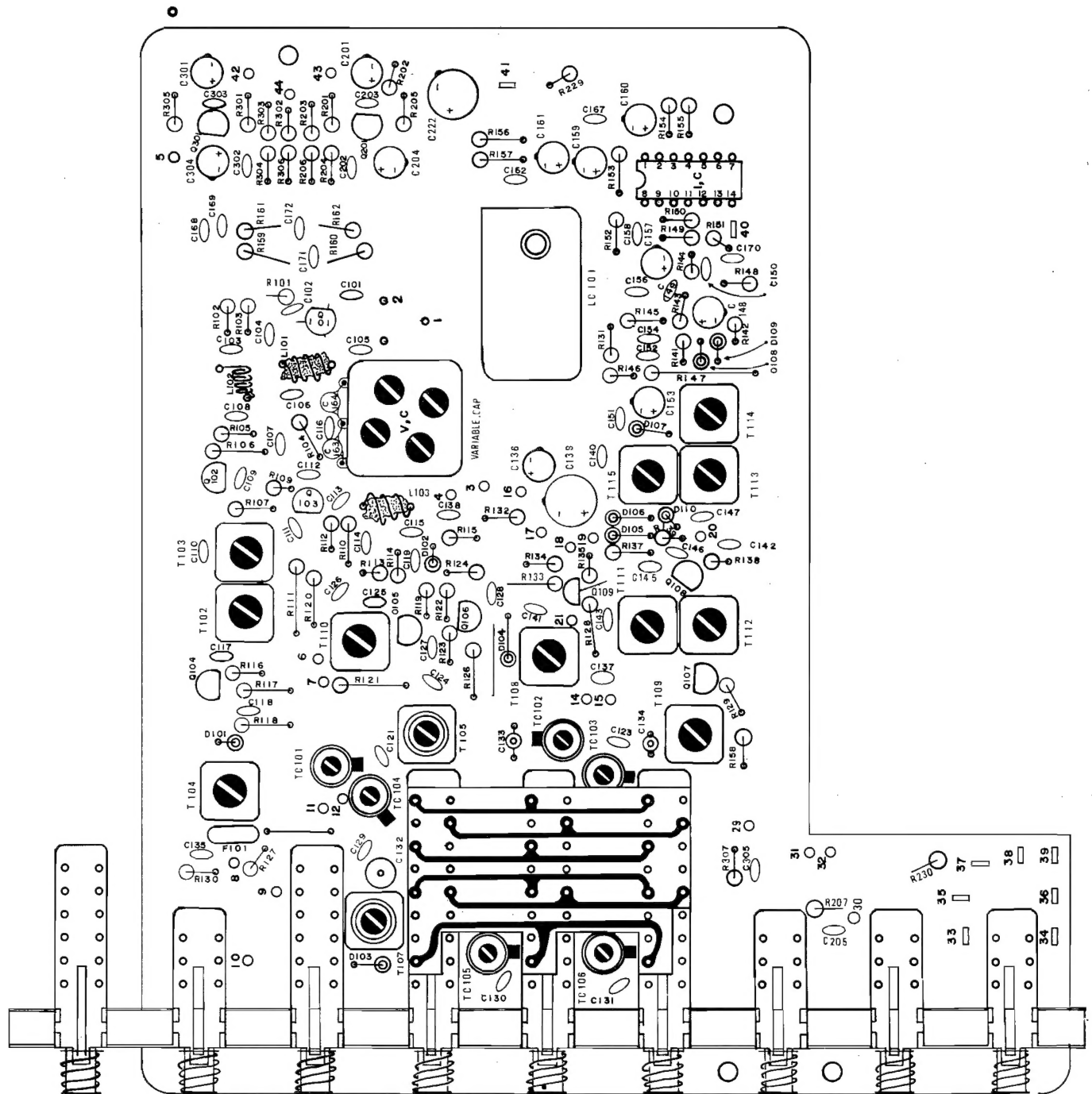
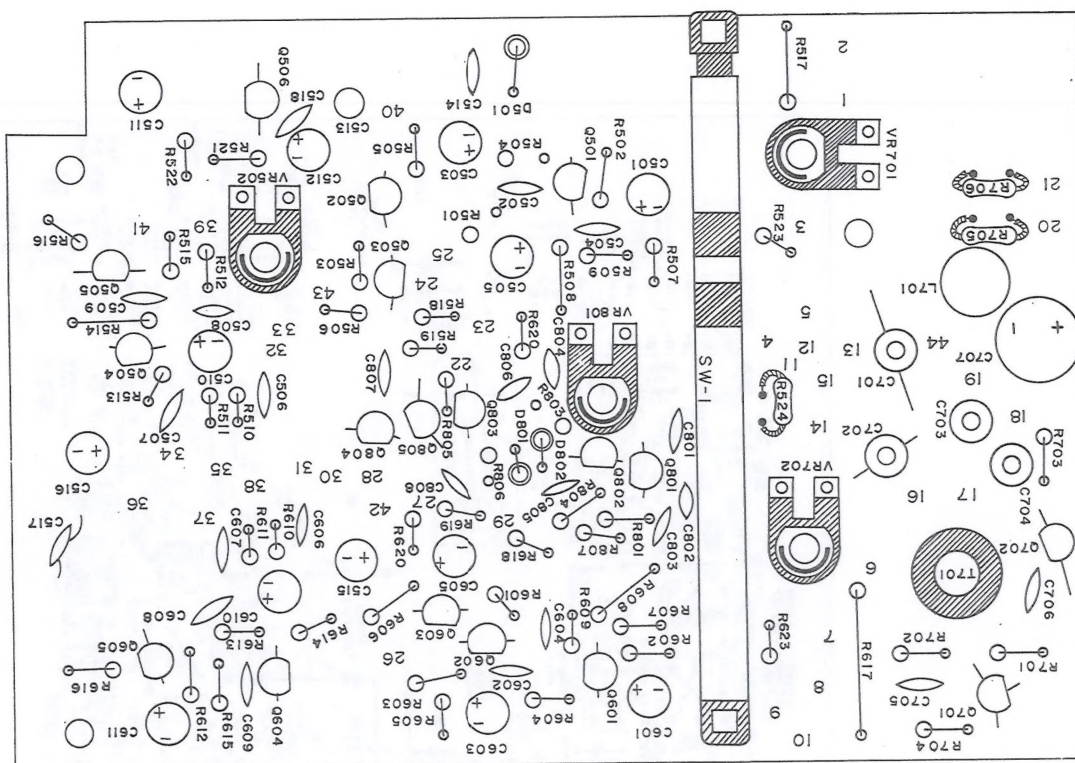


Fig. 1

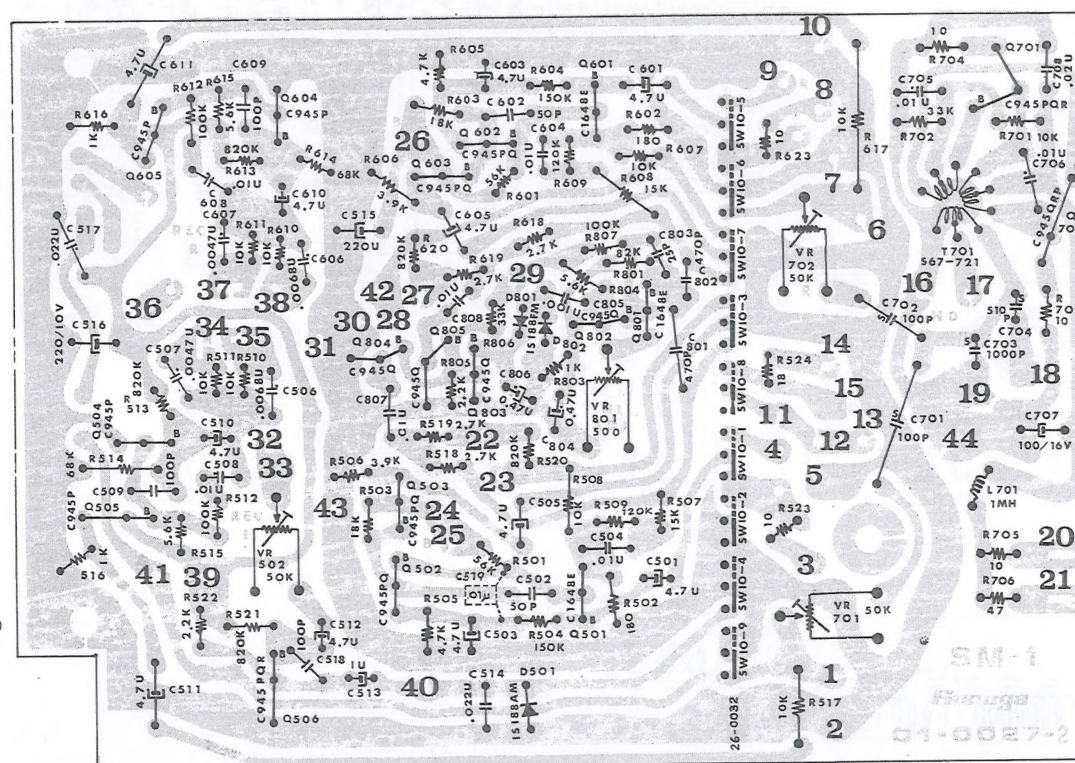
TOP VIEW

BOTTOM VIEW

CASSETTE CIRCUIT BOARD

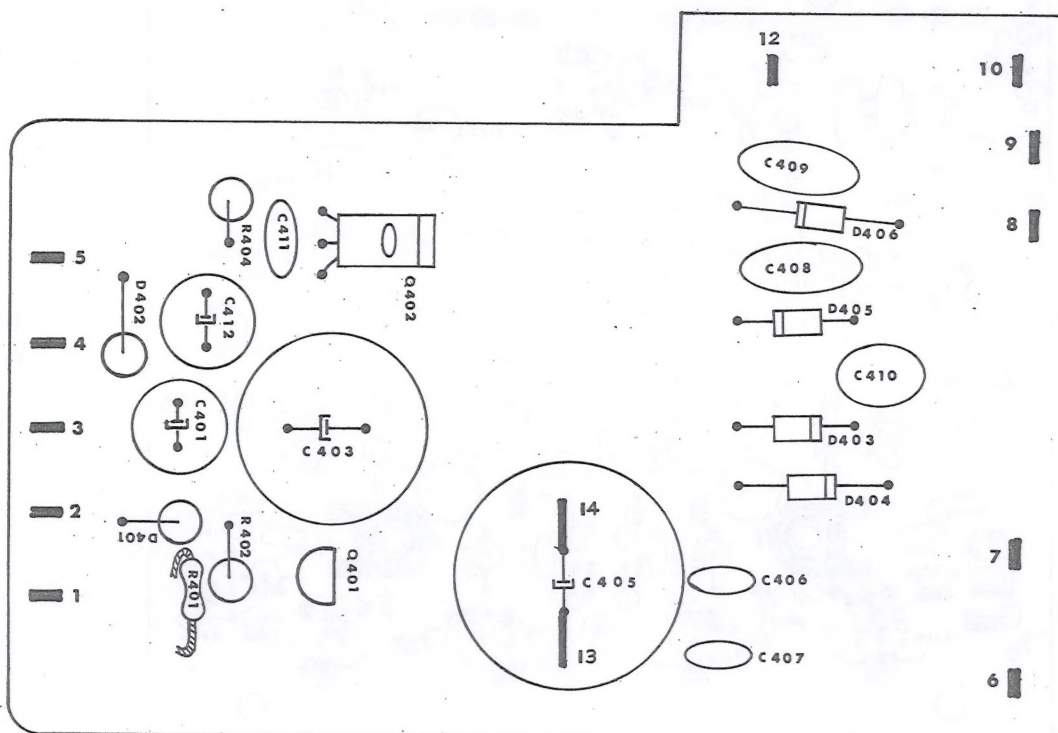


TOP VIEW
Fig. 3

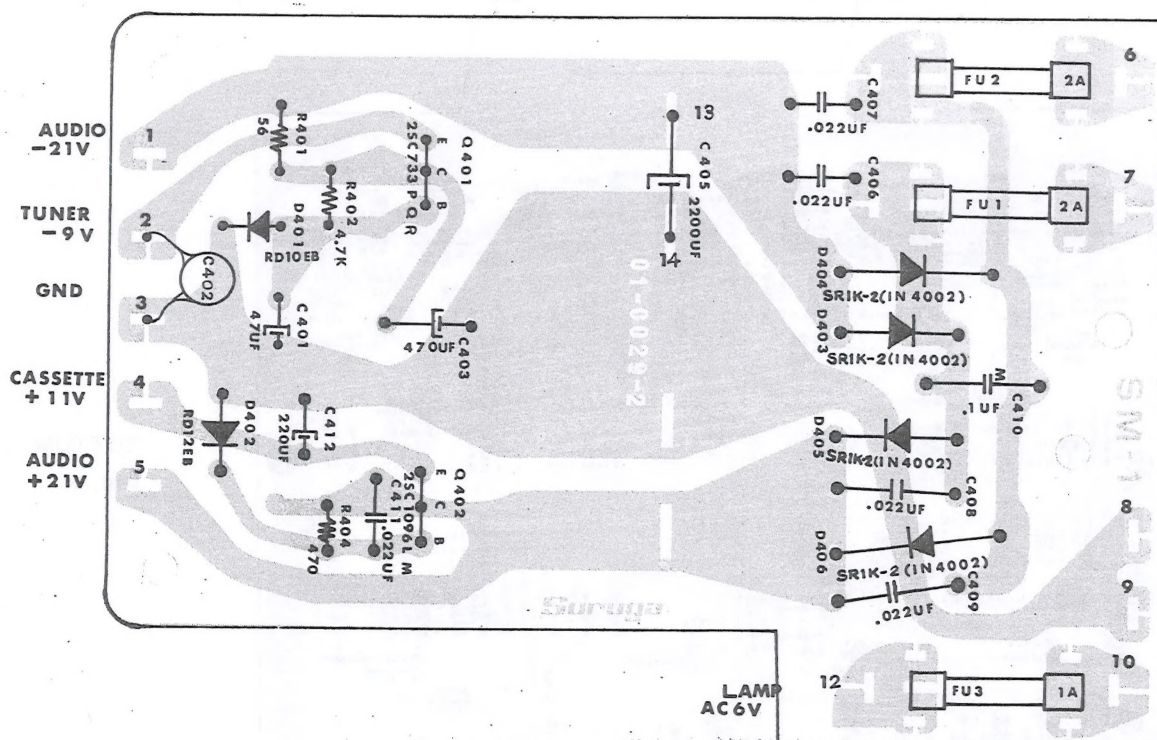


BOTTOM VIEW
Fig. 4

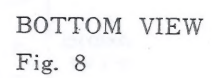
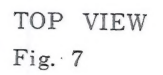
POWER CIRCUIT BOARD



TOP VIEW
Fig. 5



BOTTOM VIEW
Fig. 6



This technical drawing illustrates the internal layout of a device, featuring several key components and modules:

- Module A:** A large central unit containing numerous electronic components, including resistors, capacitors, and integrated circuits. It is labeled with various numbers (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805

6

WIRING DIAGRAM (TOP VIEW) 220VOLT

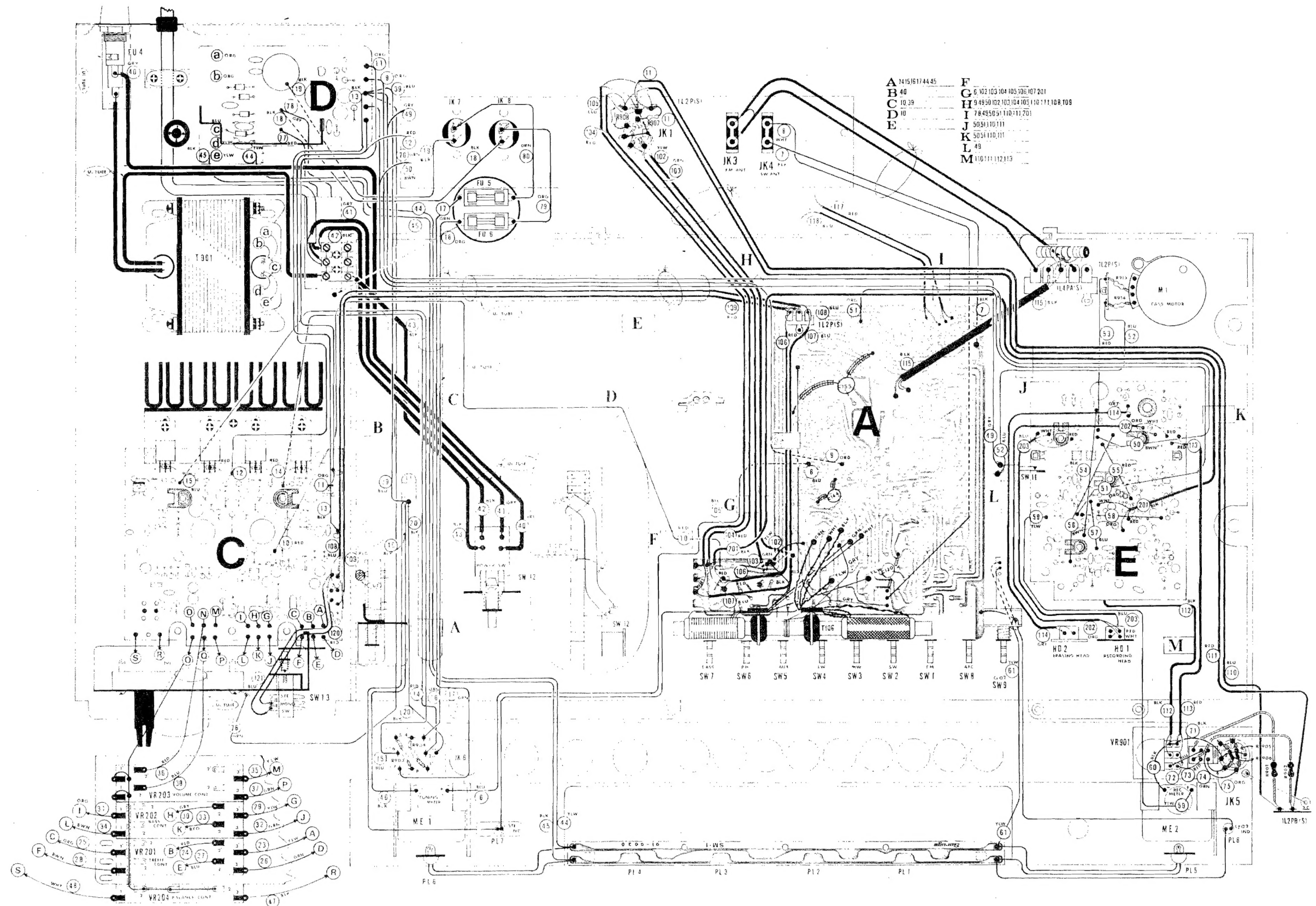


Fig. 10

WIRING DIAGRAM (TOP VIEW) 240 Volt.

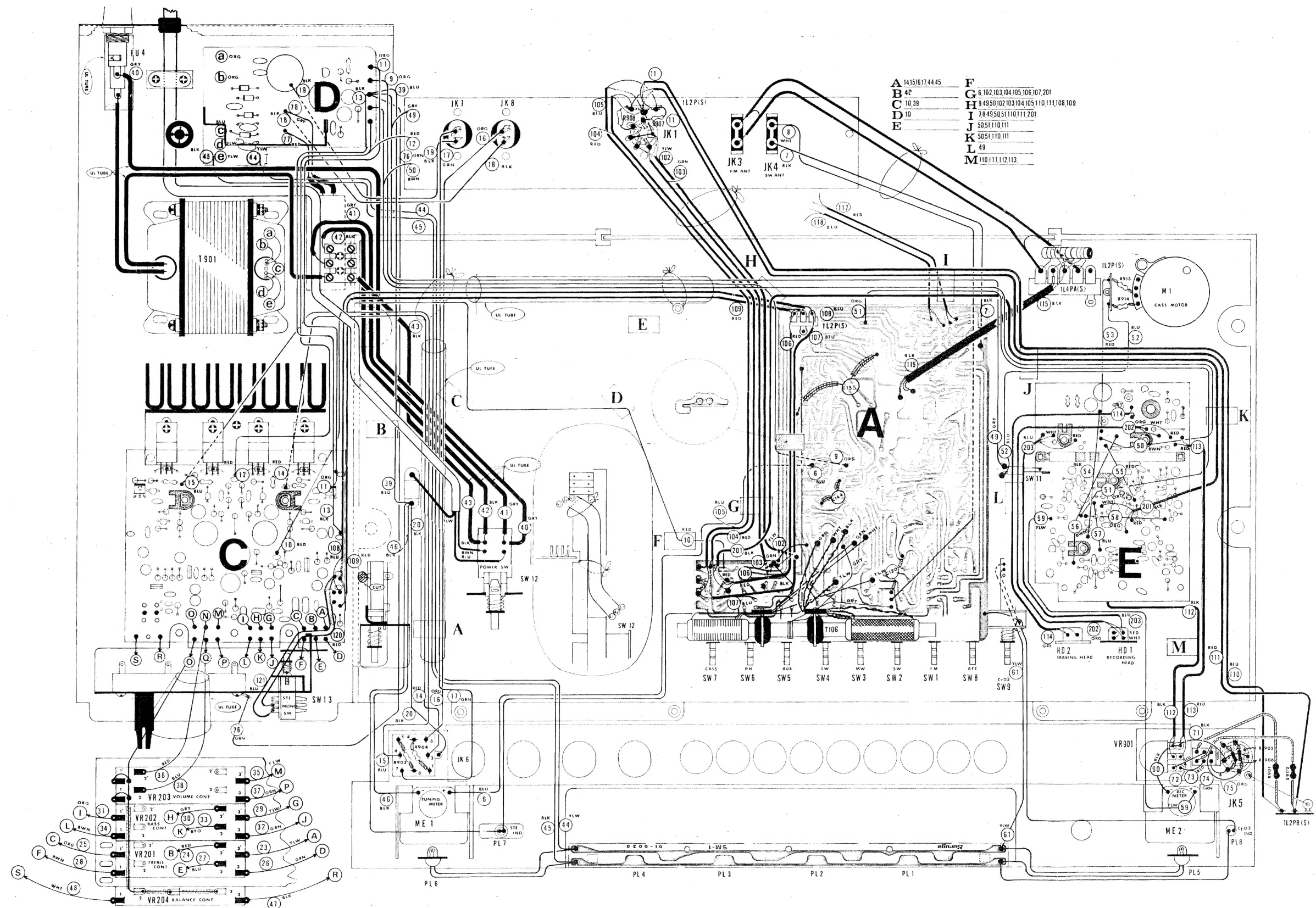


Fig. 11

CIRCUIT SCHEMATIC DIAGRAM (220Volt)

CIRCUIT DIAGRAM

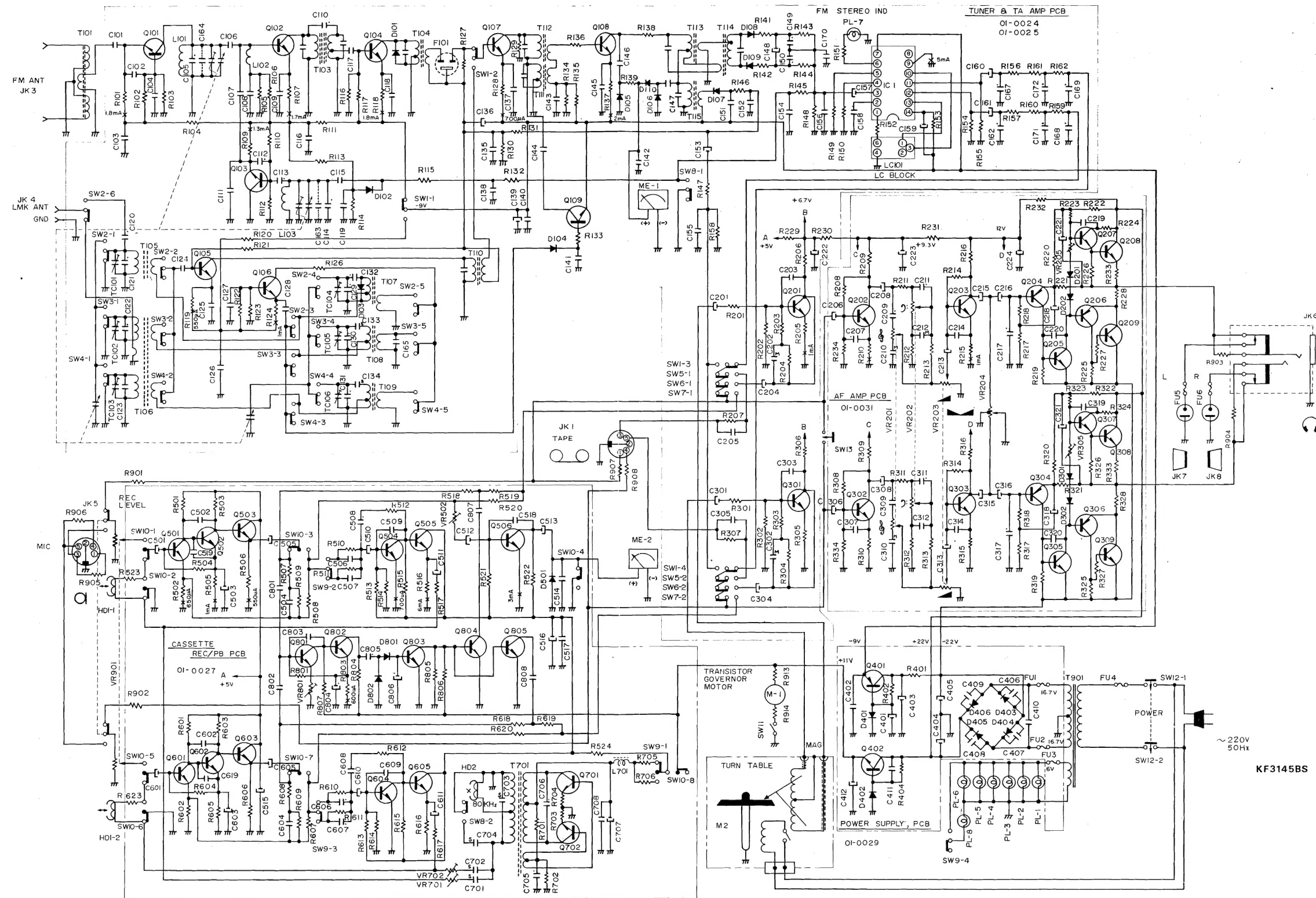


Fig. 12

CIRCUIT DIAGRAM

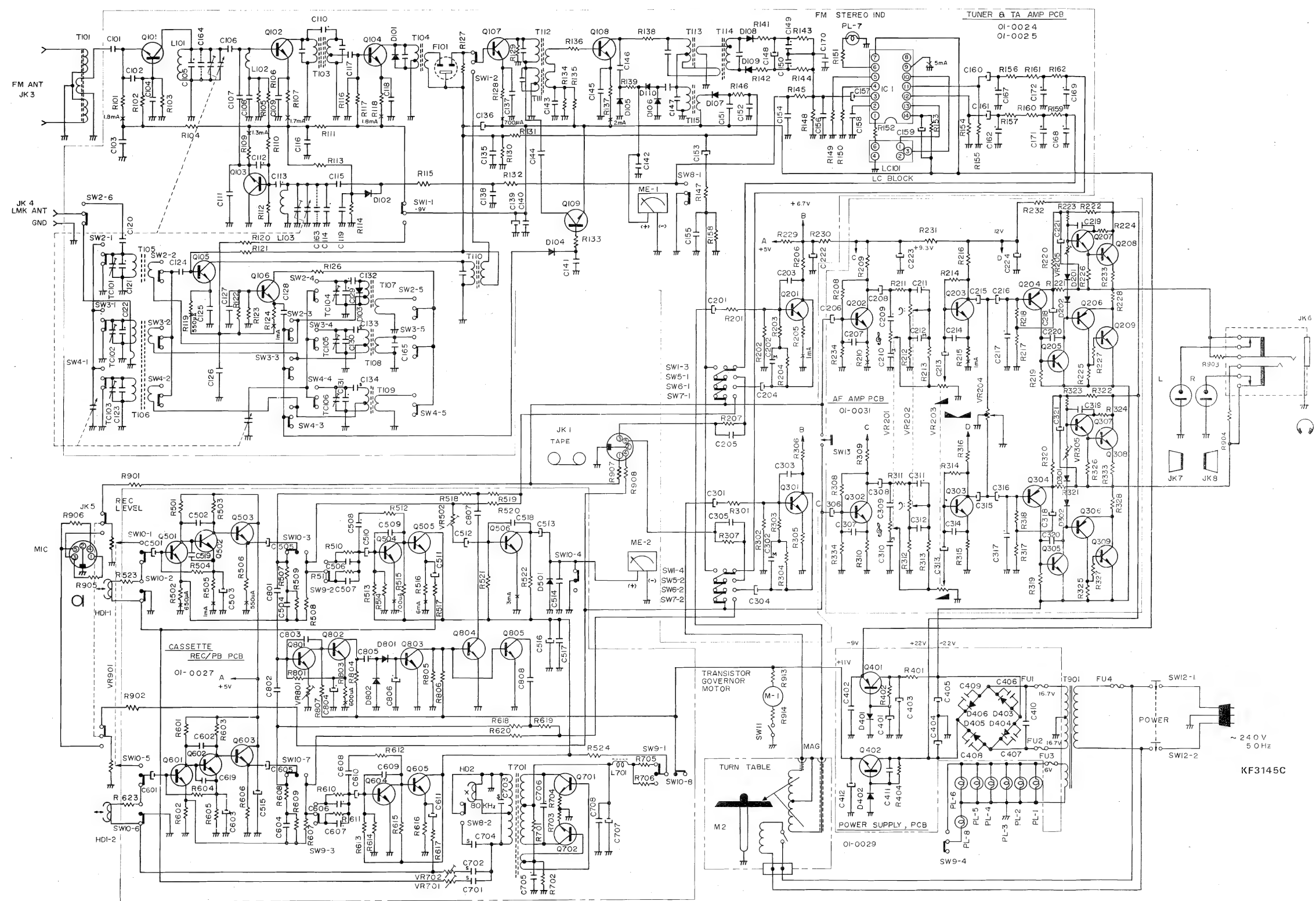


Fig. 13

EXPLODED VIEW FOR CASSETTE MECHANISM

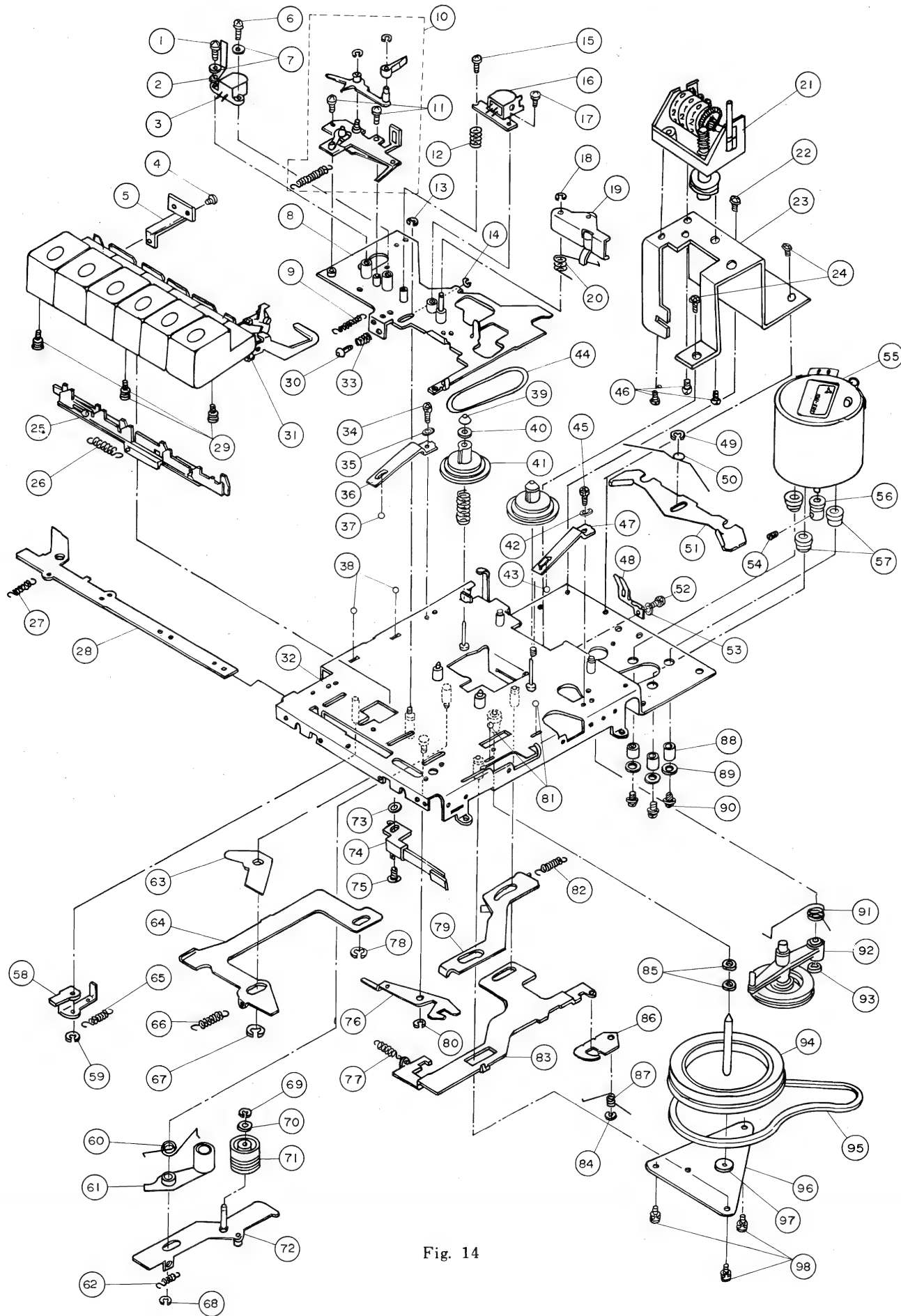


Fig. 14

MECHANICAL PARTS LIST(CASSETTE DECK)

NO.	PARTS NO.	DESCRIPTION	NO.	PARTS NO.	DESCRIPTION
1	Z4-2365	Screw, \oplus pan head M2 \times 6	50	T4-5060	Brake lever spring
2	T4-6356	Wire holder	51	T4-6003	Brake lever
3	T4-8001	ERASE Head T8004	52	Z4-2366	Screw, pan head M2.6 \times 4
4	Z4-5032	Screw, \oplus pan head M2 \times 3	53	Z4-3304	Spring washer 2.6S
5	T4-10215	Spring holder	54	Z4-2372	Screw, plate M2 \times 3
6	Z4-5539	Screw, \oplus lock type M2 \times 6	55	T4-7515	Motor MHI-5R9B
7	Z4-5132	Washer, flat 2 ϕ \times 0.4	56	T4-7074	Motor pulley 2 ϕ # 2200
8	TA3-998	Head base ass'y	57	T4-10688	Motor cushion rubber
9	T4-7821	Head base spring B.	58	T4-9314	REW. lever
10	TA2-1027	ASO mechanism ass'y	59	Z4-1414	Snap ring 2.5 ϕ \times 0.4
11	Z4-5077	Screw, \oplus SEMS (w/spring washer) pan head M2 \times 5	60	T4-7853	Idler B lever spring
12	T4-5067	Head adjusting spring	61	TA4-9511	Idler B ass'y
13	Z4-1413	Snap ring 2 ϕ \times 0.4	62	T4-10401	REW. lever spring B
14	Z4-1413	Snap ring 2 ϕ \times 0.4	63	T4-7013	Timing safety lever
15	Z4-5551	Screw, \oplus lock type M2 \times 5	64	T3-702	Brake plate operation lever
16	T3-8031	REC./PLAY Head WY-438ZT	65	T4-7846	FR. lever spring D
17	Z4-5077	Screw, \oplus SEMS (w/spring washer) pan head M2 \times 5	66	T4-7077	Brake slider operation lever spring
18	Z4-1413	Snap ring 2 ϕ \times 0.4	67	Z4-1412	Snap ring 4 ϕ \times 0.6
19	TA4-10335	Pinch roller arm ass'y	68	Z4-1414	Snap ring 2.5 ϕ \times 0.4
20	T4-10359	Pinch roller spring	69	Z4-1413	Snap ring 2 ϕ \times 0.4
21	T3-810	Tape counter	70	Z4-5137	Washer, flat type 2.5 ϕ \times 0.1
22	Z4-5062	Screw, \oplus SEMS (w/spring washer) pan head M2.6 \times 5	71	TA3-985	Idler A ass'y
23	T4-10342	Counter mounting plate	72	TA4-9049	FR. lever ass'y
24	Z4-5064	Screw, \oplus SEMS (w/spring washer) pan head M3 \times 6	73	Z4-5108	Washer, flat type 3.1 ϕ \times 0.5
25	TA4-10323	Push button mechanism ass'y	74	T4-7563	Motor switch BSW-46B
26	T4-10348	Push button cam plate spring	75	Z4-5061	Screw, \oplus SEMS (w/spring washer) pan head M2.6 \times 4
27	T4-5100	REC. lever spring	76	T4-10586	FF. lever
28	T4-10278	REC. lever A-1	77	T4-10360	Pause operation lever spring
29	Z4-5061	Screw, \oplus SEMS (w/spring washer) pan head M2.6 \times 4	78	Z4-1414	Snap ring 2.5 ϕ \times 0.4
30	T4-10436	Head base shaft	79	TA4-7063	FF. operation lever ass'y
31	TA2-1085	Push button block ass'y TM-229	80	Z4-1414	Snap ring 2.5 ϕ \times 0.4
32	TA2-1084	Parts mounting frame ass'y	81	Z4-6304	Steel ball 2 ϕ
33	T4-1395	Head base shaft spring	82	T4-7079	FF. operation lever spring
34	Z4-2366	Screw, \oplus pan head M2.6 \times 4	83	TA4-10458	Pause operation lever ass'y
35	Z4-3304	Spring washer 2.6S	84	Z4-1414	Snap ring 2.5 ϕ \times 0.4
36	T4-7016	Head slider pressure spring	85	Z4-5128	Washer, polyethylene 2.5 ϕ \times 0.25
37	Z4-5202	Steel ball 2.5 ϕ	86	T4-10218	Pause lock plate
38	Z4-6304	Steel ball 2 ϕ	87	T4-7687	Pause lock plate spring
39	T4-9512	Reel shaft cap	88	T4-7072	Motor mounting parts
40	Z4-5141	Washer, polyethylene 1.6 ϕ \times 6 ϕ \times 0.25	89	Z4-5111	Washer, flat type 2 ϕ \times 0.4
41	TA4-7102	Reel base B ass'y	90	Z4-5069	Screw, \oplus SEMS plate M2.6 \times 7
42	Z4-3304	Spring washer 2.6S	91	T4-7081	Tension arm spring
43	Z4-5202	Steel ball 2.5 ϕ	92	TA4-7062	Tension arm ass'y
44	T4-10341	Counter belt 1 \square \times 41.7 ϕ	93	Z4-1414	Snap ring 2.5 ϕ \times 0.4
45	Z4-2366	Screw, pan head M2.6 \times 4	94	TA4-1958	Flywheel ass'y
46	Z4-5064	Screw, \oplus SEMS (w/spring washer) pan head M3 \times 6	95	T4-7070	Main belt 1.2 \square \times 78.3 ϕ
47	T4-7016	Head slider pressure spring	96	T4-7868	Flywheel holder plate
48	T4-10497	Cassette pressure spring	97	T4-7869	Flywheel adjust screw
49	Z4-1414	Snap ring 2.5 ϕ \times 0.4	98	Z4-5063	Screw, \oplus SEMS (w/spring washer) pan head M2.6 \times 6

TROUBLE SHOOTING CHART

<u>SYMPTOM</u>	<u>CAUSE</u>	<u>REMEDY</u>
	(2) In case of faulty recording	
	1. Insufficient bias.	1. Adjust VR-701 and VR-702
	2. Excessive recording level.	2. Check with recording circuit.
	3. Poor tape.	3. Try new tape.
Imperfect erasing	1. Dirty erase head or cassette tape.	1. Clean by soft cloth with alchohol, or try new tape.
	2. Faulty erase head or disconnection of lead wires.	2. Solder disconnected wire or replace faulty head.
	3. Faulty OSC circuit.	3. Check and replace OSC. circuit parts.
VU meter Inoperative	1. Faulty SW 10-4	1. Replace SW-10-4 if necessary.
	2. Faulty VU meter.	2. Replace meter.
	3. Disconnection or short circuit of lead wires from meter.	3. Solder or replace wires.
	4. Faulty VU meter AMP circuit parts.	4. Replace meter AMP circuit parts.
Insufficient Volume	1. Dirty R/P head of cassette tape.	1. Clean by soft cloth with alchohol, or try new tape.
	2. Faulty amplifier.	2. Check and replace parts.
	3. Improper angle of R/P head.	3. Adjust angle.
	4. Insufficient sensitivity of R/P head.	4. Replace head.
Noise	(1) Noise is heard while motor stops.	
	1. Faulty parts (Transistor. Resistor etc.) on amplifier.	1. Replace faulty parts.
	2. Faulty Rec/Play select switch.	2. Replace switch.
	(2) Noise is heard when tape is being playback.	
	1. Faulty motor.	1. Replace motor.
	(3) Noise is heard when recording.	
	1. Magnetized head.	1. Take magnetism off with eraser.
	2. Faulty motor.	2. Replace motor.

DIAL CORD STRINGING

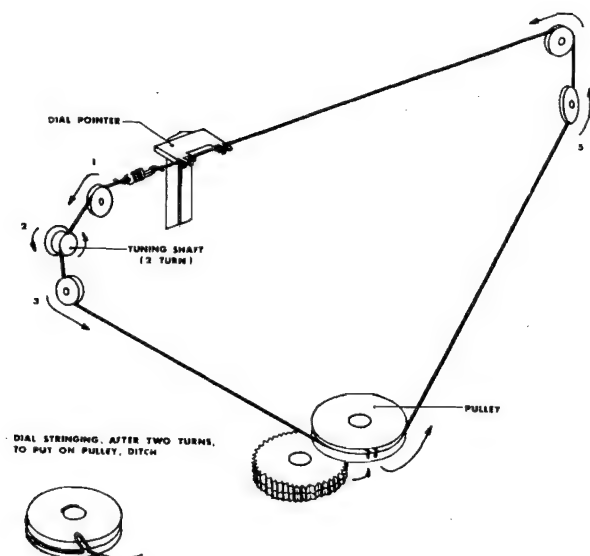


Fig. 15

TROUBLE SHOOTING CHART

<u>SYMPTOM</u>	<u>CAUSE</u>	<u>REMEDY</u>
Inoperative	<ol style="list-style-type: none"> 1. AC Plug not inserted properly. 2. Faulty motor switch. 3. Defective remote control jack. 4. Defective remote control switch inside microphone. 	<ol style="list-style-type: none"> 1. Insert AC plug properly. 2. Adjust motor switch. (SW11) 3. Adjust or replace jack if necessary. 4. Replace microphone.
No Fast Forward	<ol style="list-style-type: none"> 1. F.F. pulley slippage. 2. Defective F.F. pulley. 	<ol style="list-style-type: none"> 1. Clean by soft cloth with alchohol. 2. Replace F.F. pulley.
No Rewind	<ol style="list-style-type: none"> 1. Rew. roller slippage. 2. Defective Rewind. roller. 	<ol style="list-style-type: none"> 1. Clean by soft cloth with alchohol. 2. Replace Rewind. roller.
No Playback	<ol style="list-style-type: none"> 1. Motor pulley slips against flywheel. 2. Pinch roller slippage. 3. Reel frange slips against take-up pulley. 	<ol style="list-style-type: none"> 1. Clean by soft cloth with alchohol. 2. Clean by soft cloth with alchohol. 3. Clean by soft cloth with alchohol.
Excessive wow and flutter	<ol style="list-style-type: none"> 1. Faulty flywheel. 2. Faulty reel frange rubber. 3. Reel frange rubber slippage. 4. Capstan slippage. 5. Dirty pinch roller. 6. Dirty drive belt. 	<ol style="list-style-type: none"> 1. Replace flywheel. 2. Replace reel frange 3. Clean by soft cloth with alchohol. 4. Clean by soft cloth alchohol. 5. Clean by soft cloth with alchohol. 6. Clean by soft cloth with alchohol.
Audio Inoperative	<ol style="list-style-type: none"> 1. Faulty slide switch. 2. Faulty amplifier. 3. Disconnect speaker lead wire or voice coil. 4. Faulty headphone jack. 	<ol style="list-style-type: none"> 1. Replace slide switch. 2. Check and replace faulty parts. 3. Solder disconnected parts or replace speaker. 4. Replace headphone jack.
Faint or Distorted Audio	<ol style="list-style-type: none"> 1. Faulty amplifier. 	<ol style="list-style-type: none"> 1. Check and replace faulty parts.
Does not record, reproduce OK	<ol style="list-style-type: none"> 1. Defective microphone. 2. Faulty OSC circuit. 3. Faulty slide switch. 	<ol style="list-style-type: none"> 1. Replace microphone. 2. Check OSC. circuit. 3. Replace slide switch.
Poor Tone Quality	<p>Note: Check if recording caused poor tone quality by playing back pre-recorded tape.</p> <p>(1) In case of faulty playback:</p> <ol style="list-style-type: none"> 1. Dirty R/P head or cassette tape. 2. Defaced R/P head. 3. Improper angle of R/P head. 4. Faulty parts on amplifier. 	
		<ol style="list-style-type: none"> 1. Clean by soft cloth with alchohol. or try new tape. 2. Replace head. 3. Adjust anale. 4. Replace faulty parts.

MECHANICAL ADJUSTMENTS

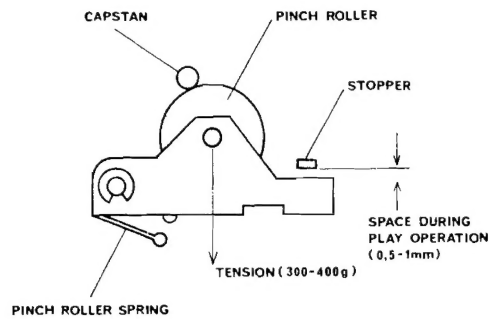


Fig. 16

1. Refer to Fig. 16 for adjustment of Pinch Roller tension when in the Play position.

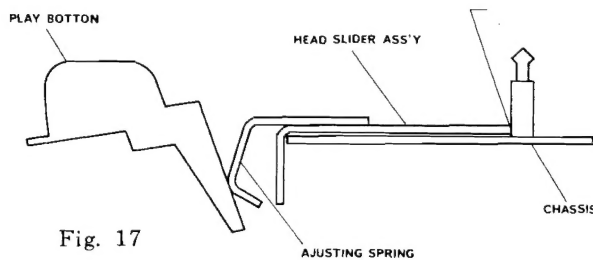


Fig. 17

2. Adjust the Head Slider (Head Base) to be as per in Fig.17 during Forward operation.

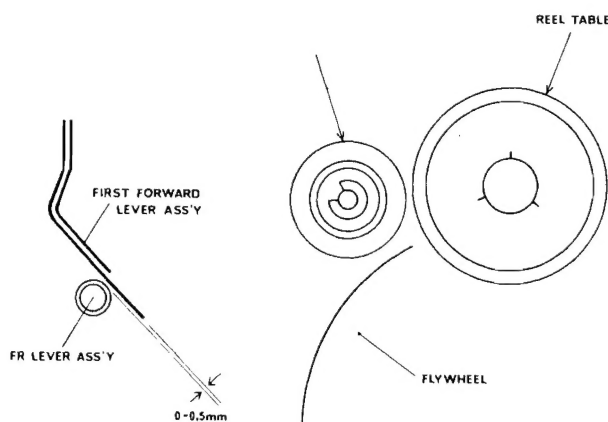


Fig. 18

3. Adjust as shown(A) in Fig. 18 with the cassette button at Stop position. If the torque cannot be adjusted to 70-130 gcm then replace limmitter (B).

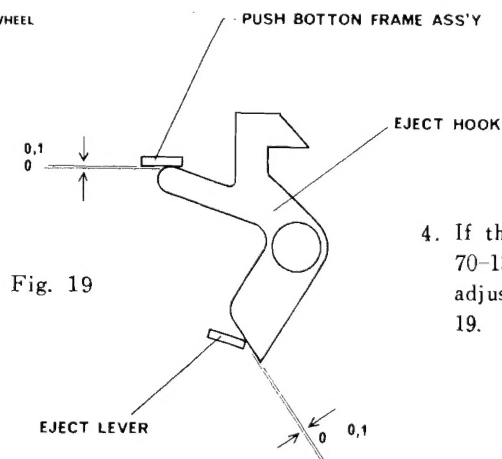


Fig. 19

4. If the torque cannot be adjusted to 70-130gcm during Rewind operation, adjust the spring as shown in Fig. 19.

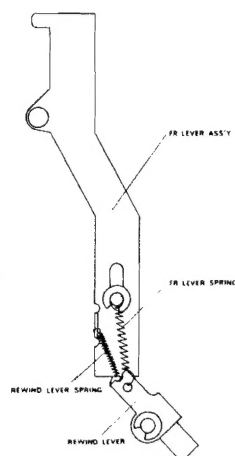


Fig. 20

- 5 If cassette door does not open properly at eject position, adjust the part as shown in Fig.20.

ALIGNMENT OF CASSETTE TAPE AMPLIFIER

1. Tape Speed:

Reproduce test tape, MTT-111 (3KHz) and check if speed deviation be within $\pm 2.5\%$. If not, adjust semi-fixed resistor used for speed adjustment inside cassette motor.

2. Head Azimuth:

Reproduce test tape, MTT-113B (8KHz), and adjust azimuth alignment screw

1) to obtain maximum output level and 2) to read both L & R level within 3dB.

3. Recording Signal Level:

a) Stop oscillation of the receiver by cutting power supply to cassette OSC circuit of the set or shorting two terminals of erase head.

b) Add 1000 Hz Recording Signal:

For finished units, add the signal to TB (tape input); for semi-finished ones, add the signal to terminals No. 4 & No. 9 of E PCB (cassette PCB).

Then adjust the input so as to be reading of No. 3 & No. 8 terminals 0.28mV/10 ohm (28.1uA).

c) Adjust VR502 so that pointer of the receiver level meter to show 0 UV.

4. Recording Bias:

With an operation of OSC circuit, set CrO₂ "ON" position. Apply potential meter onto No. 4 & No. 8 terminals of E PCB, and adjust the voltage by rotating VR701 & VR702 to read 6mV/10 ohm (600uA). Record on MTT-505 (chrome tape) the signal with level below -10dB from 0 UV. Reproduce the signal and check if the signal at 8000 Hz to be within -6dB against 0dB at 1000 Hz.

If the signal be over -6dB, re-adjust so that signal to be within -6dB by reducing bias current. Be sure that record & play distortion at 0 UV should not be less than 5% by this adjustment.

5. Adjustment of an operation of noise reduction circuit.

5-1

a) Reproduce MTT-112 (0dB at 333Hz).

b) Speaker output level to be adjusted to 500mW.

c) Add 10KHz signal onto both terminals of recording & playback heads.

d) Adjust the level (10KHz signal) to read below -45dB from the speaker output level of MT-112, and then adjust by VR801 to the point where output signal wave shows sudden increase.

5-2 Or, reproduce noise of blank tape of MTT-505. Observing its noise by oscilloscope, and adjust VR801 to the point where the noise at high-end is just about to increase.

ALIGNMENT OF POWER AMPLIFIER CIRCUIT

Adjustment of Base Bias of output transistor

Add 10KHz signal of which output voltage can obtain 10W/4 ohm to TB (tape input) terminal, and observe its wave (of 10W/4 ohm) by wide-band oscilloscope.

Adjust VR205 & VR305 to the point where overcross distortion begins to disappear. Be sure that the output level of residual hum should be less than 3mV during this adjustment.

ELECTRICAL & MECHANICAL PARTS LIST

ELECTRICAL PARTS LIST

SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION
Q 101, 102, 105	Transistor 2SC839H	R 157	" " 2.7K Ω	R 505	Resistor 1/4W 4.7K Ω
Q 103, 108	" 2SC839F	R 158	" " 27K Ω	R 506	" " 3.9K Ω
Q 104	" 2SC839F.H	R 159	Resistor 1/4W 22K Ω	R 507	" " 15K Ω
Q 104, 105	" 2SC945P	R 160	" " 22K Ω	R 508	" " 10K Ω
Q 104, 105, 108	" 2SC945Q	R 161	" " 22K Ω	R 509	" " 120K Ω
Q 104, 105, 108	" 2SC945P.Q	R 162	" " 22K Ω	R 510	" " 10K Ω
Q 105, 107, 102	" 2SC945P.Q.R	R 201	Resistor 1/4W 3.3K Ω	R 511	" " 10K Ω
Q 207, 307	" 2SC815L	R 202	" " 220K Ω	R 512	" " 100K Ω
Q 402	" 2SC1096L.M	R 203	" " 18K Ω	R 513	" " 820K Ω
Q 205, 305	" 2SC1449L.M	R 204	" " 560K Ω	R 514	" " 68K Ω
Q 205, 305, 302, 303	" 2SC1648F	R 205	" " 100 Ω	R 515	" " 5.6K Ω
Q 201, 301	" 2SC1648ES	R 206	" " 33K Ω	R 516	" " 1K Ω
Q 206, 306	" 2SA539L	R 207	" " 470K Ω	R 517	" " 10K Ω
Q 204, 304	" 2SA733R	R 208	" " 820K Ω	R 518	" " 2.7K Ω
Q 401	" 2SA733P.Q.R	R 209	" " 2.7K Ω	R 519	" " 2.7K Ω
Q 308, 309	" 2SD288L	R 210	" " 220 Ω	R 520	" " 820K Ω
IC 1	Integrated circuit μ PC554C	R 211	" " 22K Ω	R 521	" " 820K Ω
D 101, 102, 104	Silicon Diode 1S2473	R 212	" " 1.5K Ω	R 522	" " 2.2K Ω
D 102	Vari-cap Diode 1S2139B	R 213	" " 2.2K Ω	R 523	" " 10 Ω
D 105, 501	Germanium Diode 1S188AM	R 214	" " 470K Ω	R 524	" " 18 Ω
D 107, 108, 109	" 1S188FM1	R 215	" " 150 Ω	R 601	Resistor 1/4W 56K Ω
D 401	Zener Diode RD10EB	R 216	" " 10K Ω	R 602	" " 180 Ω
D 402	" RD12EB	R 217	" " 100 Ω	R 603	" " 18K Ω
D 201, 302	Silicon Varistor DS442	R 218	" " 22K Ω	R 604	" " 150K Ω
D 301, 302	Rectifying Diode 1N4002 or SR1K2	R 219	" " 1.8K Ω	R 605	" " 4.7K Ω
D 403, 404	"	R 220	" " 22K Ω	R 606	" " 3.9K Ω
R 101	Resistor 1/4W 560 Ω	R 221	" " 2.7K Ω	R 607	" " 10K Ω
R 102	" " 5.6K Ω	R 222	" " 1 K Ω	R 608	" " 15K Ω
R 103	" " 18K Ω	R 223	" " 1.5K Ω	R 609	" " 120K Ω
R 104	" " 47 Ω	R 224	" " 4.7 Ω	R 610	" " 10K Ω
R 105	" " 10K Ω	R 225	" " 330 Ω	R 611	" " 10K Ω
R 106	" " 4.7K Ω	R 226	" " 330 Ω	R 612	" " 100K Ω
R 107	" " 1K Ω	R 227	" " 4.7 Ω	R 613	" " 820K Ω
R 109	" " 1.8K Ω	R 228	" " 1W 0.47 Ω	R 614	" " 68K Ω
R 110	" " 10K Ω	R 229	" " 1/4W 1K Ω	R 615	" " 5.6K Ω
R 111	" " 100 Ω	R 230	" " 1.5K Ω	R 616	" " 1K Ω
R 112	" " 27K Ω	R 231	" " 470 Ω	R 617	" " 10K Ω
R 113	" " 82K Ω	R 232	" " 1.5K Ω	R 618	" " 2.7K Ω
R 114	" " 1.5K Ω	R 233	" " 1W 0.47 Ω	R 619	" " 2.7K Ω
R 115	" " 100K Ω	R 234	" " 1/4W 470K Ω	R 620	" " 820K Ω
R 116	" " 10K Ω	R 301	Resistor 1/4W 3.3K Ω	R 621	" " 10 Ω
R 117	" " 4.7K Ω	R 302	" " 220K Ω	R 701	Resistor 1/4W 10K Ω
R 118	" " 1K Ω	R 303	" " 18K Ω	R 702	" " 3.3K Ω
R 119	" " 1K Ω	R 304	" " 560K Ω	R 703	" " 10 Ω
R 120	" " 100 Ω	R 305	" " 100 Ω	R 704	" " 10 Ω
R 121	" " 2.7K Ω	R 306	" " 33K Ω	R 705	" " 10 Ω
R 122	" " 10K Ω	R 307	" " 470K Ω	R 706	" " 47 Ω
R 123	" " 22K Ω	R 308	" " 820K Ω	R 801	Resistor 1/4W 82K Ω
R 124	" " 1.8K Ω	R 309	" " 2.7K Ω	R 803	" " 1K Ω
R 126	" " 100 Ω	R 310	" " 220 Ω	R 804	" " 5.6K Ω
R 127	" " 220 Ω	R 311	" " 22K Ω	R 805	" " 2.2K Ω
R 128	" " 1K Ω	R 312	" " 1.5K Ω	R 806	" " 33K Ω
R 129	" " 220K Ω	R 313	" " 2.2K Ω	R 807	" " 100K Ω
R 130	" " 47K Ω	R 314	" " 470K Ω	R 901	Resistor 1/4W 100K Ω
R 131	" " 8.2K Ω	R 315	" " 150 Ω	R 902	" " 100K Ω
R 132	" " 220K Ω	R 316	" " 10K Ω	R 903	" " 1 W 220 Ω
R 133	" " 33K Ω	R 317	" " 100 Ω	R 904	" " 220 Ω
R 134	" " 27K Ω	R 318	" " 22K Ω	R 905	" " 1/4 W 18K Ω
R 135	" " 8.2K Ω	R 319	" " 1.8K Ω	R 906	" " 18K Ω
R 137	" " 560 Ω	R 320	" " 22K Ω	R 907	" " 27K Ω
R 138	" " 1K Ω	R 321	" " 2.7K Ω	R 908	" " 27K Ω
R 139	" " 5.6K Ω	R 322	" " 1 K Ω	R 913	Resistor 1W 10 Ω
R 141	" " 1K Ω	R 323	" " 1.5K Ω	R 914	" " "
R 142	" " 1K Ω	R 324	" " 4.7 Ω	C 101	Ceramic Capacitor 20pF
R 143	" " 10K Ω	R 325	" " 1/4W 330 Ω	C 102	" " 10pF
R 144	" " 10K Ω	R 326	" " 330 Ω	C 103	" " 0.022 μ F
R 145	" " 470K Ω	R 327	" " 4.7 Ω	C 104	" " 0.022 μ F
R 146	" " 1K Ω	R 328	" " 1W 0.47 Ω	C 105	" " 30pF
R 147	" " 100K Ω	R 333	" " 0.47 Ω	C 106	" " 3pF
R 148	" " 56K Ω	R 334	Resistor 1/4W 470K Ω	C 107	" " 3pF
R 149	" " 22K Ω	R 401	Resistor 1/4W 56 Ω	C 108	" " 0.01 μ F
R 150	" " 22K Ω	R 402	" " 4.7K Ω	C 109	" " 0.022 μ F
R 151	" " 220 Ω	R 404	" " 470 Ω	C 110	" " 1.3pF
R 152	Resistor 1/4W 47 Ω	R 501	Resistor 1/4W 56K Ω	C 111	" " 20pF
R 153	" " 4.7K Ω	R 502	" " 180 Ω	C 112	" " 50pF
R 154	" " 3.9K Ω	R 503	" " 18K Ω	C 113	" " 20pF
R 155	" " 3.9K Ω	R 504	" " 150K Ω	C 114	" " 20pF
R 156	" " 2.7K Ω				

SYMBOL NO.	DESCRIPTION		SYMBOL NO.	DESCRIPTION		SYMBOL NO.	DESCRIPTION	
C 115	"	10 pF	C 171	Ceramic Capacitor	0.001 μ F	C 407	Ceramic Capacitor	0.022 μ F
C 116	Ceramic Capacitor	0.022 μ F	C 172	"	0.001 μ F	C 408	"	0.022 μ F
C 117	"	0.022 μ F	C 201	Electrolytic Capacitor	4.7 μ F/10~25V	C 409	"	0.022 μ F
C 118	"	0.022 μ F	C 202	Mylar Capacitor	0.022 μ F	C 410	Mylar Capacitor	0.1 μ F
C 119	"	0.022 μ F	C 203	Ceramic Capacitor	100 pF	C 411	Ceramic Capacitor	0.022 μ F
C 120	"	10 pF	C 204	Electrolytic Capacitor	4.7 μ F/10~25V	C 412	Electrolytic Capacitor	220 μ F/10V
C 121	"	82 pF	C 205	Ceramic Capacitor	40 pF	C 501	Electrolytic Capacitor	4.7 μ F/10~25V
C 123	"	20 pF	C 206	Electrolytic Capacitor	4.7 μ F/10~25V	C 502	Ceramic Capacitor	50 pF
C 124	"	0.039 μ F	C 207	Ceramic Capacitor	470 pF	C 503	Electrolytic Capacitor	4.7 μ F/10~25V
C 125	Mylar Capacitor	0.022 μ F	C 208	Electrolytic Capacitor	4.7 μ F/10~25V	C 504	Ceramic Capacitor	0.01 μ F
C 126	Ceramic Capacitor	0.022 μ F	C 209	Ceramic Capacitor	0.0022 μ F	C 505	Electrolytic Capacitor	4.7 μ F/10~25V
C 127	"	0.022 μ F	C 210	Mylar Capacitor	0.015 μ F	C 506	Ceramic Capacitor	0.0068 μ F
C 128	"	0.039 μ F	C 211	Ceramic Capacitor	0.01 μ F	C 507	"	0.0047 μ F
C 129	"	82 pF	C 212	Mylar Capacitor	0.1 μ F	C 508	"	0.01 μ F
C 130	"	3 pF	C 213	Electrolytic Capacitor	4.7 μ F/10~25V	C 509	"	100 pF
C 131	"	39 pF	C 214	Ceramic Capacitor	470 pF	C 510	Electrolytic Capacitor	4.7 μ F/10~25V
C 132	Polystyrene Capacitor	3300 pF	C 215	Electrolytic Capacitor	1 μ F/10~50V	C 511	"	4.7 μ F/10~25V
C 133	"	270 pF	C 216	"	1 μ F/10~50V	C 512	"	4.7 μ F/10~25V
C 134	"	100 pF	C 217	Ceramic Capacitor	0.0015 μ F	C 513	"	1 μ F/10~25V
C 135	Ceramic Capacitor	0.022 μ F	C 218	Electrolytic Capacitor	220 μ F/10V	C 514	Ceramic Capacitor	0.022 μ F
C 136	Electrolytic Capacitor	4.7 μ F/10~25V	C 219	Ceramic Capacitor	470 pF	C 515	Electrolytic Capacitor	220 μ F/10V
C 137	Mylar Capacitor	0.1 μ F	C 220	"	25 pF	C 516	"	220 μ F/10V
C 138	Ceramic Capacitor	0.022 μ F	C 221	Electrolytic Capacitor	47 μ F/16V	C 517	Ceramic Capacitor	0.022 μ F
C 139	Electrolytic Capacitor	220 μ F/10V	C 222	"	100 μ F/10V	C 518	"	100 pF
C 140	Ceramic Capacitor	0.022 μ F	C 223	"	100 μ F/10V	C 519	Mylar Capacitor	0.01 μ F
C 141	"	0.022 μ F	C 224	"	1000 μ F/16V	C 601	Electrolytic Capacitor	4.7 μ F/10~25V
C 142	"	0.022 μ F	C 301	Electrolytic Capacitor	4.7 μ F/10~25V	C 602	Ceramic Capacitor	50 pF
C 143	"	0.022 μ F	C 302	Mylar Capacitor	0.022 μ F	C 603	Electrolytic Capacitor	4.7 μ F/10~25V
C 144	"	0.022 μ F	C 303	Ceramic Capacitor	100 pF	C 604	Ceramic Capacitor	0.01 μ F
C 145	Mylar Capacitor	0.039 μ F	C 304	Electrolytic Capacitor	4.7 μ F/10~25V	C 605	Electrolytic Capacitor	4.7 μ F/10~25V
C 146	Ceramic Capacitor	3 pF	C 305	Ceramic Capacitor	40 pF	C 606	Ceramic Capacitor	0.0068 μ F
C 147	"	130 pF	C 306	Electrolytic Capacitor	4.7 μ F/10~25V	C 607	"	0.0047 μ F
C 148	Electrolytic Capacitor	4.7 μ F/10~25V	C 307	Ceramic Capacitor	470 pF	C 608	"	0.01 μ F
C 149	Ceramic Capacitor	0.001 μ F	C 308	Electrolytic Capacitor	4.7 μ F/10~25V	C 609	"	100 pF
C 150	"	0.001 μ F	C 309	Ceramic Capacitor	0.0022 μ F	C 610	Electrolytic Capacitor	4.7 μ F/10~25V
C 151	"	0.022 μ F	C 310	Mylar Capacitor	0.015 μ F	C 611	"	4.7 μ F/10~25V
C 152	"	0.022 μ F	C 311	Ceramic Capacitor	0.01 μ F	C 619	Mylar Capacitor	0.01 μ F
C 153	Electrolytic Capacitor	4.7 μ F/10~25V	C 312	Mylar Capacitor	0.1 μ F	C 701	Polystyrene Capacitor	100 pF
C 154	Ceramic Capacitor	0.022 μ F	C 313	Electrolytic Capacitor	4.7 μ F/10~25V	C 702	"	100 pF
C 155	"	0.022 μ F	C 314	Ceramic Capacitor	470 pF	C 703	"	1000 pF
C 156	"	220 pF	C 315	Electrolytic Capacitor	1 μ F/10~50V	C 704	"	510 pF
C 157	Electrolytic Capacitor	4.7 μ F/10~25V	C 316	"	1 μ F/10~50V	C 705	Ceramic Capacitor	0.01 μ F
C 158	Ceramic Capacitor	330 pF	C 317	Ceramic Capacitor	0.0015 μ F	C 706	"	0.01 μ F
C 159	Electrolytic Capacitor	4.7 μ F/10~25V	C 318	Electrolytic Capacitor	220 μ F/10V	C 707	Electrolytic Capacitor	100 μ F/16V
C 160	"	4.7 μ F/ "	C 319	Ceramic Capacitor	470 pF	C 708	Ceramic Capacitor	0.022 μ F
C 161	"	4.7 μ F/ "	C 320	"	25 pF	C 801	Ceramic Capacitor	470 pF
C 162	Ceramic Capacitor	0.0047 μ F	C 321	Electrolytic Capacitor	47 μ F/16V	C 802	"	470 pF
C 163	"	3 pF	C 401	Electrolytic Capacitor	47 μ F/10V	C 803	"	25 pF
C 164	"	3 pF	C 402	Ceramic Capacitor	0.022 μ F	C 804	Aluminum solid Capacitor	0.47 μ F
C 165	"	10 pF	C 403	"	470 μ F/25V	C 805	Ceramic Capacitor	0.001 μ F
C 167	"	0.0047 μ F	C 404	"	2200 μ F/25V	C 806	Aluminum solid Capacitor	0.47 μ F
C 168	"	0.001 μ F	C 405	"	2200 μ F/25V	C 807	Ceramic Capacitor	0.01 μ F
C 169	"	0.001 μ F	C 406	Ceramic Capacitor	0.022 μ F	C 808	"	0.01 μ F
C 170	"	390 pF						

SYMBOL NO.	PARTS NO.	DESCRIPTION	SYMBOL NO.	PARTS NO.	DESCRIPTION	SYMBOL NO.	PARTS NO.	DESCRIPTION
T 101	12-0004	FM antenna coil ass'y	TC 101	TPB-11	Trimmer	JK 4	"	AM ANT. "
T 102	11F-149S	FM IFT 1st	TC 102	TPA-11	"	JK 5	CS-253-1-2	MIC "
T 103	HF-149S	" 2nd	TC 103	TPB-11	"	JK 6	1J035	Headphone jack
T 104	HF-118	" 3rd	TC 104	TPB-11	"	JK 7	2PDIN 1.B3	Speaker jack Left
T 105	11-0008	KW antenna coil ass'y	TC 105	TPA-11	"	JK 8	"	" Right
T 106	11-0007	LW,MW antenna coil ass'y	TC 106	TPB-11	"	HD 1	WY438ZT	Recording tape head
T 107	09-0013	KW OSC. coil	SW 1-9	26-0023	9-P push switch	HD 2	T4-8001	Erasing head
T 108	S67-724	MW "	SW 10	26-0032	Recording switch	M 1	HM1-5R9B	Cassette motor
T 109	S67-723	LW "	SW 11	1-1	Cassette motor switch	ME 1	B07A35R	Tuning level meter
T 110	H11-137S	AM IFT 1st	SW 12	285V (15)/1-N	Power switch	ME 2	B07A34R	Rec. level meter
T 111	893	FM IFT 4th	SW 13	VR 204	MONO STEREO switch	FU 1	2AT	Fuse
T 112	14S-569	AM IFT 2nd	VR 201	50K Ω A \times 2	Treble Volume	FU 2	2AT	"
T 113	S74-037	FM IFT DIS. Primary	VR 202	"	Bass "	FU 3	1A F-7142	"
T 114	HF-085BS	" Secondary	VR 203	"	Sound "	FU 4	T500mA	"
T 115	H1-144S	AM IFT 3rd	VR 204	50K Ω W	Balance "	○ FU 5	(1.6AT FUSE)	"
T 701	S67-721	Cassette OSC. coil	VR 205	100 Ω B	half fixed resistance	○ FU 6	(")	"
* T 901		Power transformer	VR 305	"	"	PL 1	Dial lamp	"
L 101	13-0007	FM RF coil	VR 502	50K Ω B	"	PL 2	"	"
L 102	14-0004	FM IF Trap coil	VR 701	"	"	PL 3	"	"
L 103	13-0008	FM OSC coil	VR 702	"	"	PL 4	"	"
L 701	RC8S1nH	Choke coil	VR 801	500 Ω B	"	PL 5	Meter lamp	"
L.C 101	MB30S01	Multiplex Block coil	VR 901	100K Ω A \times 2	Sound Volume	PL 6	"	"
F 101	CFS107M ^A B	Ceramic filter	JK 1	5P DIN MAB5S	TAPE JACK	PL 7	FM stereo indicator lamp	"
V.C	4X20SET	Poly-variable condenser	JK 3	CS-082-2	FM ANT. jack	PL 8	Cr2 indicator lamp	"